



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,029	10/31/2003	Chien-Yuan Wang	2019-0226P	1098
2292	7590	12/20/2004	EXAMINER HODGES, MATTHEW P	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			ART UNIT 2879	

DATE MAILED: 12/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/697,029

**Applicant(s)**

WANG ET AL

**Examiner**

Matt P Hodges

**Art Unit**

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Specification*

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Shimada et al. (US 2004/0137265 A1).

Regarding claims 1 and 5, Shimada discloses (see figure 8) a white light emitting diode including a blue LED (81) and a yellow and red phosphor sealed in the package resin (83). (Page 6 paragraph 63). The yellow phosphor emits light at between 520 and 580nm while the red phosphor has a peak at 611nm. (See figure 1, 7, and Page 6 Paragraph 61). Both phosphors are excited by the blue LED.

Regarding claim 2, Shimada discloses the Blue LED emits light at 465nm. (Page 6 Paragraph 61).

Art Unit: 2879

Claims 1, 2, and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Chua et al. (US 2004/0072106 A1).

Regarding claim 1, Chua discloses a white light emitting device including a blue LED, a yellow phosphor, and a red phosphor. (Pages 2 and 3, Paragraphs 22, 28, and 32). The yellow phosphor emits light at between 520 and 580nm while the red phosphor emits light at between 580 and 640nm. (Page 2 paragraph 28). Both phosphors are excited by the blue LED. (Page 3 paragraph 32).

Regarding claim 2, Chua discloses the Blue LED being InGaN which emits light at 465nm. (Page 2 Paragraph 22).

Regarding claim 4, Chua discloses the red phosphor being  $\text{CaS:Eu}^{2+}$  which emits light in the red spectrum (Page 2 Paragraph 28).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kummer et al. (US 6,669,866) in view of Shimada et al. (US 2004/0137265 A1).

Regarding claims 1, 2, 3, and 5 Kummer discloses a white light emitting device including a blue LED emitting at 450nm and a yellow phosphor emitting at between 520 and 580nm formed in a resin mixture and encapsulating the diode. (Column 5 lines 45-60). The yellow

Art Unit: 2879

phosphor is  $(Y_{0.29}Tb_{0.67}Ce_{0.04})_3Al_5O_{12}$ . Kummer does not appear to disclose the additional use of a red phosphor in the white emitting device, however Shimada teaches the use of applying a red phosphor to the blue LED and yellow phosphor in order to advantageously improve the color rendering property of the emitting light. (Page 1 paragraphs 7-9 and page 6 paragraph 63). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the use of a red phosphor as disclosed by Shimada into the white light emitting device as disclosed by Kummer in order to advantageously improve the color rendering property of the emitting light.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hohn et al. (US 6,613,247) discloses the use of red and yellow phosphors in an encapsulant.


### *Contact Information*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt P Hodges whose telephone number is (571) 272-2454. The examiner can normally be reached on 7:30 AM to 4:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 2879

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mph 

  
NIMESHKUMAR D. PATEL  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800